dup.

Reilly Tar and Chemical Site in St. Louis Park, Minnesota

Proposed Super Fund Site Project

This transmits background information and the procedures we plan to follow to bring this project to a condition where construction can begin on-site by June 1, 1981. In order to accelerate certain aspects of the clean-up effort we propose utilizing headquarters suplemental funds to expedite field investigation and feasibility studies and Engineering Design. The attached schedule will demonstrate what cleanup activities will be able to begin on June 1, 1981.

Background

Over the past five to ten years, over forty-five studies have been performed addressing the many issues associated with the Reilly-Tar Chemical Site. A summary report (Attachment #1) compiles much of this information.

From 1917 to 1970 Reilly-Tar Chemical Company refined coal tar and treated wood with creosote. They occupied an 80-acre site in St. Louis Park, Minnesota. (See Attachment #2). This is a western suburb of Minneapolis. (See Attachment #3). The City purchased the land in 1970, upon the closing and demolition of existing structures. The site is presently vacant land with a condominium constructed at one corner. Over the past several years, the many studies have identified the threat to public health, the contamination of groundwater and soil and a list of remedial actions needed to correct this dangerous situation. The main contaminant involved at the site is Polynuclear Aromatic Hydrocarbon. This group includes phenols and creosote. There is a heavily contaminated area of soil on the site itself, extending offsite in the area of surface drainage. During the years of operation, Reilly utilized several storage lagoons. The site of these lagoons is also highly contaminated. The complex groundwater situation has contributed to the contamination of groundwater within a two to three mile radius of the site, including several different aquifers.

Based on the above reports six remedial actions have been identified as needed to clean up the contaminants. These projects include:

1. Remove contaminated soil
2. On-site deep well remedial actions
3. Well Abandonment Program
4. Drinking Water/Well Treatment Program
5. Barrier Well System
6. Long-Term Monitoring Program

Prior to Federal involvement, the Minnesota Pollution Control Agency (MPCA) and the Minnesota Health Department (MHD) have been the main agencies involved in the project. The USEPA Enforcement Division has been involved in the project for several years and on September 4, 1980 joined MPCA and St. Louis Park in a law suit against Reilly-Tar.

Based upon a rather rapid, but comprehensive series of meetings between USEPA, MPCA, MHD, and other agencies it was determined that planning for three of the six remedial actions, discussed above, could be accelerated to meet the needs of the Superfund Program Requirements. This accelerated planning which will result in plans and specifications being ready by June 1, 1981 is dependent upon the availability of Headquarters Supplemental funds. The three remedial actions atune to accelerated planning include:

1. Well abandonment program
2. On-Site well remedial actions
3. Drinking water treatment project

Outline of Future Work

The purpose of this section is to provide Headquarter personnel with the information requested in the January 19, 1981, Michael Cook Memo. The discussion with the attached information, outlines the work needed to be done to get three aspects of the Reilly Tar project into "Category D" by June 1, 1981. In the spirit of establishing the USEPA/State Partnership, the MPCA and MHD were instrumental in developing the program defined below. All information contained in Attachments A thru E was developed by MPCA and MHD and submitted to the Regional Office, as requested. Attachment A provides a project overview and detailed schedule, including flow diagram, for the work to be done.

The following discussion responds to the seven questions included in the January 19 memo.

Cost Estimates

The engineering firm of Hickok and Associates has been instrumental in bringing the project to its current state of readiness. They have been retained first by St. Louis Park, and later by State Agencies to develop needed information. Prior to Superfund involvement some work was underway to develop plans and specifications for remedial actions, but not on an acceptable time table. MPCA and MHD, with some input from Hickok and Associates have made preliminary estimates that $414,164 would be needed in Headquarters Supplemental Funds to accelerate planning in three of the six remedial action categories, discussed above. This work includes final field feasibility studies, development of remedial action alternatives, analyzing environmental impacts, screening alternatives, preparing plans and specifications for the selected alternative, and preparation of bid packs. Attachment B contains a complete breakdown of costs associated with each work element and a priority ranking system based on the relative importance of the cleanup action to the total activity.

Costs for a Public Participation Program

USEPA, Region V, State Agencies, and local units of government recognize the importance of an involved citizenry and have taken steps to demonstrate this over the past several years. The St. Louis Park advisory committee, already formed, will be a starting point for future activities. The public participation programs will involve USEPA and State staff to the greatest extent possible. The remainder of the program is estimated to cost $14,084. The detailed program and cost estimate is included in Attachment C.

Detailed Project Schedule

Attachment A contains a detailed project schedule, both in general and with specific reference to the superfund aspects of the project. In summary, remaining field investigations will be completed in February and March, with all planning documents and bid packages completed on June 1, 1981. A more detailed CPM diagram will be submitted in the near future which will more closely correlate project activities and superfund planning requirements.

Status of EPA/State Cooperative Agreement

The State of Minnesota recognizes that remedial actions by the EPA under the Superfund Act requires State Contributions and cooperation in several areas. The State has a cooperative history on working with USEPA on enforcement actions and is currently developing enabling legislation so it has the authority to work with USEPA on Superfund projects. Attachment D fully explains the State's position and its willingness to cooperate with USEPA on Superfund projects.

State Capability to Carry Out Superfund Actions

Attachment E fully explains the State's capability for carrying out a proposed action at the Reilly-Tar site. Experienced, trained staff at the MPCA and MHD are available to work with USEPA to implement Superfund projects. The MHD has an analytical laboratory available for sample anlaysis. With these resources available, and implementing legislation in the development stages, the State of Minnesota has the capability to oversee expenditure of Superfund monies in St. Louis Park in cooperation with EPA Superfund guidelines.

Feasibility for a Phased Approach

A review of the information presented indicates that phasing remedial actions at the Reilly Tar site is a very feasible approach to solving the pollution problem. As indicated above, three of six remedial actions have been identified as being fast-tracked. Bringing these three actions to completion of Category C will constitute the "initial"phase of work. The "intermediate" phase will include cleanup activities of the remedial actions that have plans and specs complete and developing plans and specs for the remaining three activities. The "final" phase will include cleanup activities associated with the final 3 remedial actions.

Name of Regional Coordinator

Mr. Jack Braun has been designated Superfund Site Coordinator for the Reilly-Tar Project.

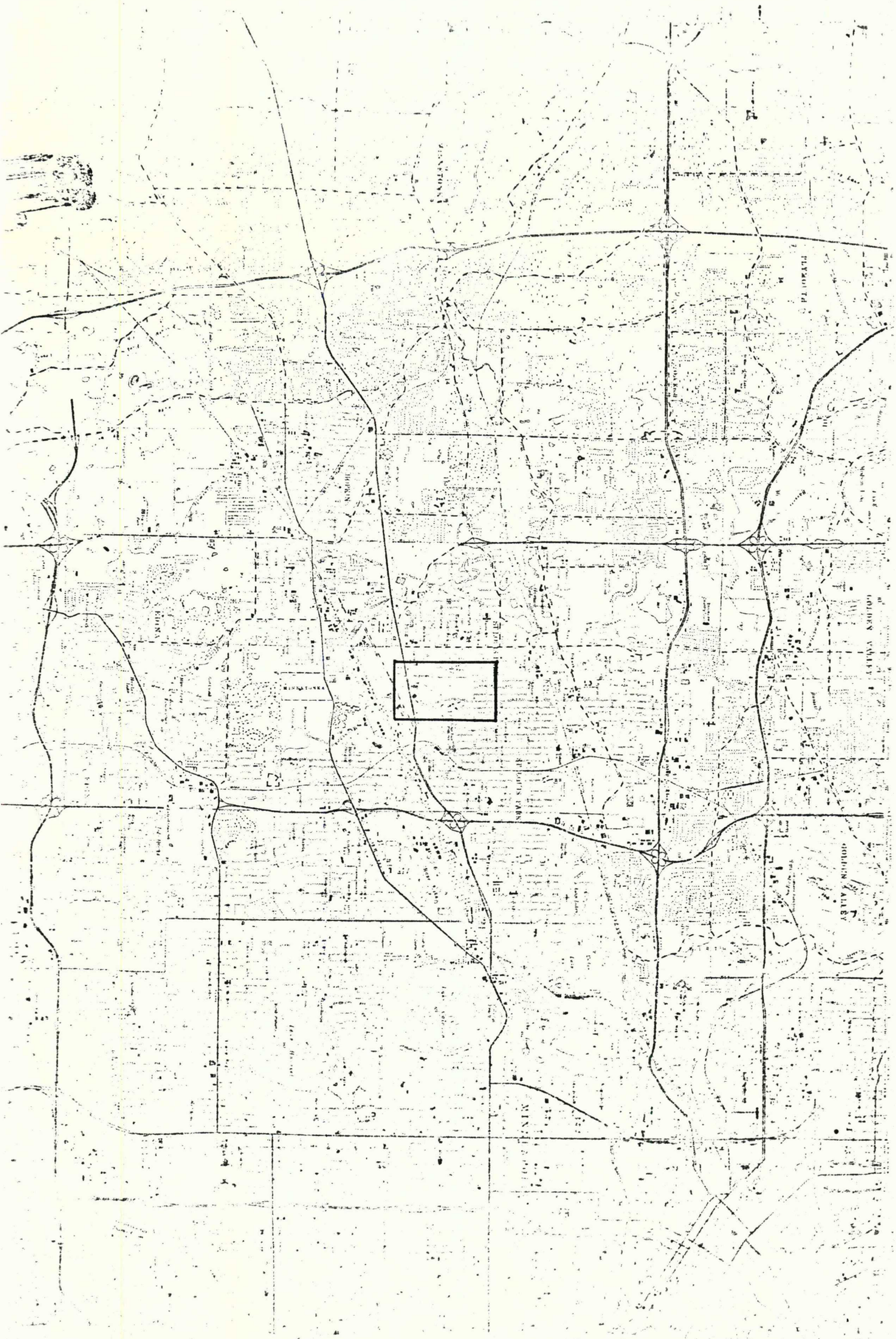
Other Ongoing USEPA Activities at Reilly-Tar

USEPA currently has an active, highly sensitive enforcement action underway against the Reilly-Tar Company. All Superfund activities must be closely coordinated with the Region V Enforcement Division, and the U.S. Department of Justice. Certain information is very sensitive and must remain in the agency. Therefore, Headquarters review staff is requested to contact the Superfund Site Coordinator, identified above, prior to discussing this project with different agencies or other parties.

List of Attachments

NON-RESPONSIVE

[redacted]



EIT #3

Location of the site in relation to the Twin Cities Metropolitan area.

Attachment A

OVERVIEW OF INVESTIGATIVE AND REMEDIAL MEASURES FOR REILLY TAR AND CHEMICAL SITE

I. Past Phased Approach in Identifying, Assessing and Remedying Site Related Problems

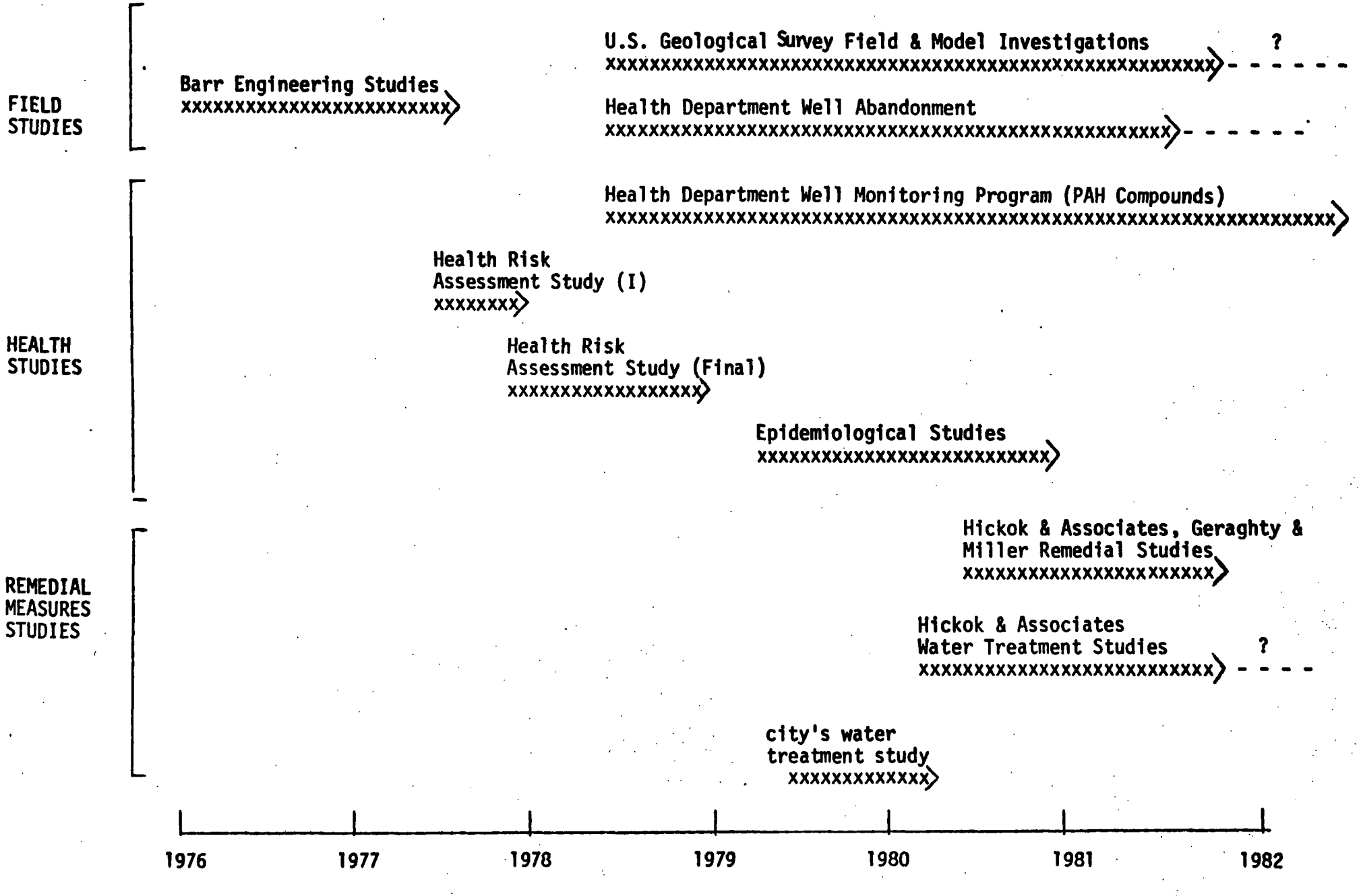
During the past six years, the State of Minnesota and the City of St. Louis Park have conducted a three-prong approach in identifying, assessing, and remedying the ground water contamination by creosote wastes. This three-prong approach involves field investigation (hydrogeological and geochemical), health risk studies, and development of remedial measures (Figure I). Some preliminary field investigations were conducted during the late 1960's and early 1970's. Extensive field studies assessing contamination of the soils, drift aquifers, and deep bedrock aquifers began in 1975 with the Barr Engineering investigations, and continued by the U.S. Geological Survey through to the present. Coincident with these activities, the Health Department was identifying and assessing both abandoned and active wells in St. Louis Park for evaluation as possible contributors to contamination and possible abandonment. The U.S. Geological Survey and Health Department efforts are ongoing.

Health risks were identified due to possible chronic ingestion of carcinogenic polyaromatic hydrocarbons. With no capability to measure PAH levels in water prior to 1978, Health Department attempted to estimate PAH levels from phenol data and concluded that there was, indeed, a potential health risk. With the development of analytic capability for PAH compounds in 1978, four municipal wells were found to have high PAH levels are were closed in November, 1978. A fifth well showed increased PAH levels in late 1979 and was closed in December, 1979. Monitoring efforts of all municipal and some private wells are ongoing.

With the establishment of field date, the state retained a team of consultants (Hickok & Associates; Geraghty and Miller; and Henningson, Durham, and Richardson) to identify and evaluate various remedial measures, such as excavation, insitu treatments, barrier and recovery wells, water treatment, disposal waters, etc. Likewise, water treatment studies for the municipal wells are being conducted for the City, assessing powdered activated carbon, granular activated carbon, ultraviolet radiation, and ozone.

The accompanying figure (Figure I) displays the timing of tnese activities and their relation to future efforts.

FIGURE I - GENERAL OVERVIEW OF ST. LOUIS PARK STUDIES SINCE 1976



II. Future Investigative and Remedial Action Project Elements

The U.S. Geological Survey is completing its field investigations in cooperation with the city, state, and U.S. Environmental Protection Agency. These efforts will involve better definition of drift contamination south of the Republic site, an "instantaneous" sampling of the Prairie du Chien aquifer for all organics, evaluation of microbial degradation of coal tar derivatives, and completion of a 3-dimensional model as a tool to assess contaminated movement and evaluate remedial measures.

The Department of Health is continuing well abandonment efforts in St. Louis Park and has received state funding through June, 1981. These efforts involve evaluation and abandonment/reconstruction work of five major industrial wells in St. Louis Park. A comprehensive search must be conducted to identify any remaining wells and to develop a final well abandonment strategy and program. Remaining wells to be abandoned need to be identified and specifications for abandonment developed. Once this final inventory is established, the well abandonment program can proceed along this final phase if funding becomes available.

Two wells located on the former Republic Creosote site have been identified as being potentially critical in contaminant transport. These are the former plant supply well (U.S. Geological Survey W-23) and an abandoned supply well of a sugar beet processing plant that occupied the site prior to 1917. This latter well may have been used to drain wastes from the Republic plant. Both wells are extremely deep (>900 feet) and are multi-aquifer wells, open to all the major aquifers in the Twin Cities region (Mt. Simon - Hinckley Sandstones through Prairie du Chien Dolomites). It is critical that these wells be cleaned, evaluated, and abandoned. Coal tar has been identified in W-23 at a depth of

596 feet. The fill material below this level must be sampled and then removed. In order to assess the extent of contamination in the Prairie du Chien aquifer and to prevent mobilization of contaminants during cleanup, a relief well should be placed adjacent to W-23. Little information is available on the old "Sugar Beet" well as it was just located during the fall, 1980. It is not clear if the well is completely filled with debris and/or contaminants.

The consultant team of Geragthy & Miller; Henningson, Durham & Richardson; and Hickok and Associates will be developing a remedial plan for St. Louis Park by November, 1981. The objective of this consultant team is to identify, evaluate, and recommend various remedial alternatives based on cost-effectiveness and feasibility. The remedial measures that are being explored include development of a gradient control system for all aquifers, evaluation of water disposal and treatment alternatives, and assessment of soil removal/treatment alternatives the impacts of the various remedial measures will also be evaluated, such as effectiveness of gradient control system, possible lead subsidence, and effects on the water supply. The final recommendations will outline a proposed remedial program, an estimate of the effectiveness of the remedies, and the projected costs of implementation.

One of the criteria problems identified to date has been the lack of data on water treatment to handle the discharged water of the gradient control wells. The minimal bench-testing and pilot studies as currently projected are not very adequate in developing a good handle of water treatment effectiveness. This may be the biggest obstacle to developing an effective comprehensive remedial program. An increased and accelerated effort, as outlined in this proposal, to deal with the water treatment issue will be extremely useful and beneficial in the overall development of a comprehensive remedy.

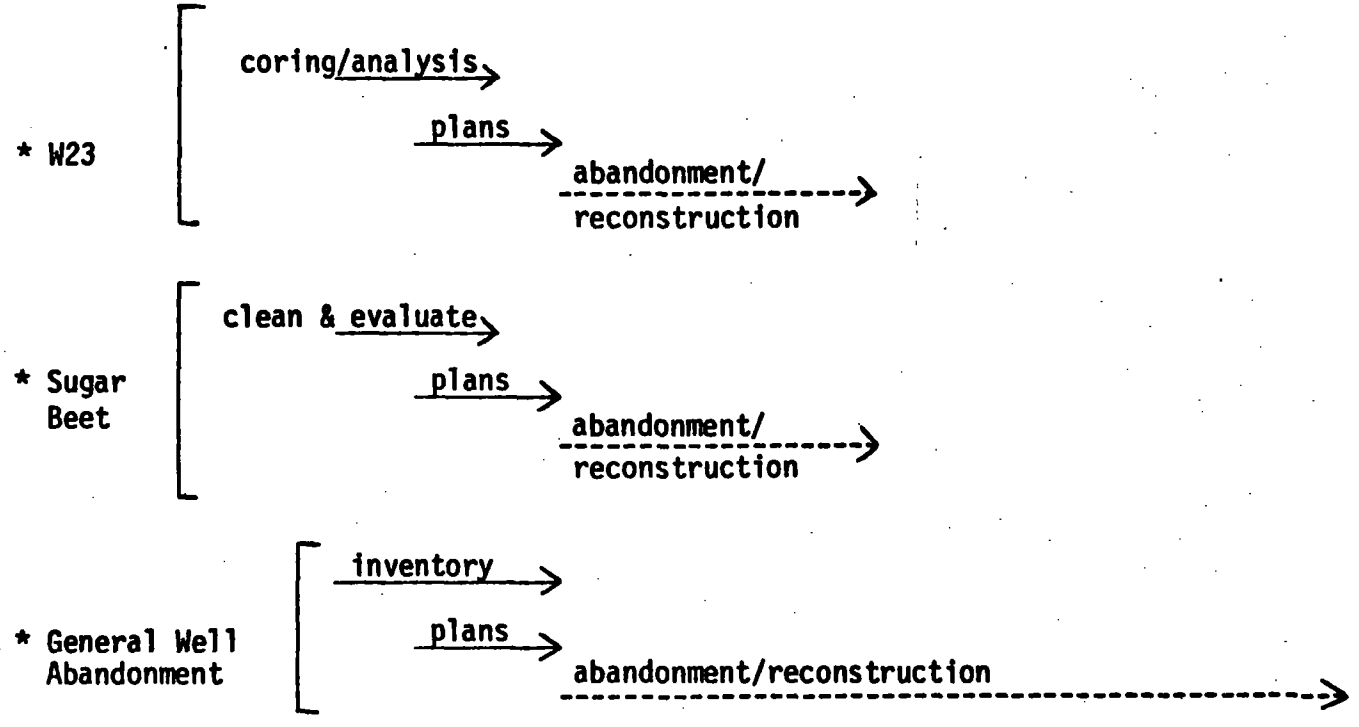
The city is investigating water supply alternatives, such as treatment (PAC, GAC, ozone, UV radiation), connecting to adjacent municipal supplies (i.e., Minneapolis), or drilling deeper wells. The same consultant team has been retained for this work, they will identify the best alternative for the city to ensure a safe and adequate water supply.

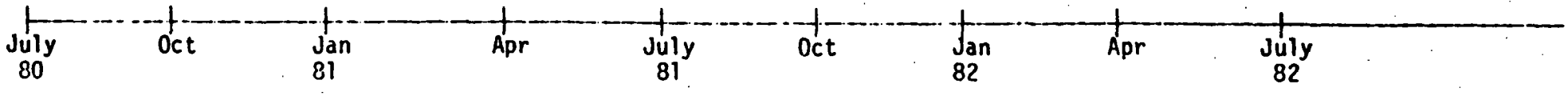
The Health Department will continue the PAH monitoring program and will be developing analytical capability for other organics. These efforts will be ongoing until the situation is remedied.

The accompanying figure (Figure II) represents an overview of project elements for which Category B and C activity can be completed with FY 81 funding, thereby allowing for Category D work to begin in the summer of 1981.

FIGURE II - CURRENT AND PROJECTED ACTIVITIES - ST. LOUIS PARK

1. MDH well abandonment (current plans)





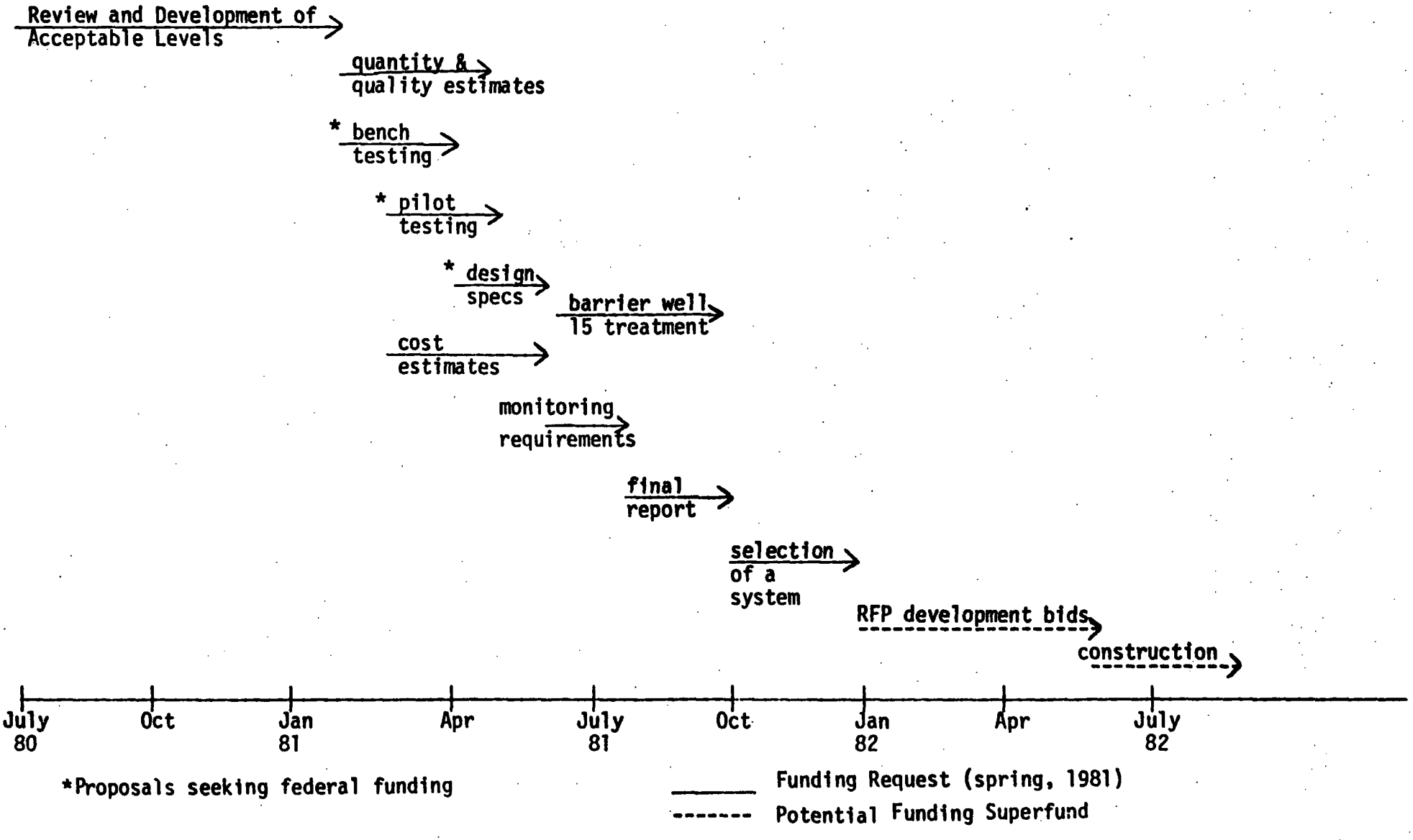
*Proposals seeking federal funding

_____ Funding Request (spring, 1981)

------- Potential Funding Superfund

FIGURE II: CURRENT AND PROJECTED ACTIVITIES - ST. LOUIS PARK (continued)

2. Hickok and Associates (Ground Water Control)



DESCRIPTION AND COST ESTIMATES FOR TASKS TO BE COMPLETED DURING SPRING OF 1981, IN PREPARATION OF SUPERFUND SUPPORT IN JUNE OF 1981

I. Abandonment of Two On-Site Wells. Investigate the extent of contamination of W23 and the extent to which coal tar derivatives have migrated from the well into the surrounding rock. This task consists of Category B - Field Investigation and Feasibility, and Category C - Engineering Design. The completion of this task, (parts A and B below) will prepare the project for Category D - Implementation of Remedial Actions.

A. Investigation of W23

1. Evaluate the extent of contamination of W23. The U.S. Geological Survey (USGS) has shown that this well may have been a significant source of contaminants in the Prairie du Chien - Jordan Aquifer. The well was originally drilled to a depth of 909 feet and has since been filled with debris to a depth of 595 feet. It has been reported that contamination of the well occurred as a result of a railroad tank-car spill in the 1920's. A video survey of the well and a sample taken from the 595 foot depth have identified the presence of coal tar.

This task involves coring from a depth of 595 feet to a depth of 10 feet into the bedrock, or approximately 919 feet. Two water quality analyses will be taken before and after coring. The debris removed from the well will be sampled and analyzed every fifty (50) feet. The soil and water will be analyzed for total Polynuclear Aromatic Hydrocarbons (PAH), phenolic compounds, and Total Organic Carbon (TOC). Plans and specifications will be prepared for abandonment or reconstruction, depending on the evaluation of the well.

Estimate of Cost:	6 soil/sludge analyses		$3,600
	4 water analyses		2,400
	plans and specifications		12,800
	coring		15,000
	removal of hazardous waste if encountered from 595 to 909 feet		5,000
	abandonment/reconstruction specifications		5,000
		TOTAL	43,800
Completion Date:	May 15, 1981		

2. Evaluate the significance of coal tar, known to be in and around W23, as it contributes to the contamination of the Prairie du Chien - Jordan Aquifer. Install a test well approximately 500 feet deep; obtain cores, chemically analyze water and core samples for total PAH and phenolic compound and TOC, and install pumping facilities. The analytical data will be evaluated and plans and specifications will be prepared for well abandonment or reconstruction.

Estimate of Cost:	20 soil analyses		$12,000
	4 water analyses		2,400
	drilling, casing, screen, pump		60,000
		TOTAL	$74,400
Completion Date:	May 15, 1981		

B. Evaluate extent to which the Sugar Beet Well functioned as a wastewater disposal well. A letter fromthe 1930's has identified this well as "one of several old wells which were being used to drain creosote away into the ground." The well, originally drilled to a depth of 940 feet, has been filled with debris to a depth ten (10) feet below the land surface.

of the well. For those wells in which adequate information is not available, identify the extent to which the well should be investigated (i.e., geophysical or video surveys).

Estimate of Cost:	well search		$ 5,000
	plans and specifications		15,000
		TOTAL	$20,000

Completion Date: May 15, 1981

III. Establishment of Barrier Well at Municipal Well 15. The purpose of this task is two-fold. The first is to develop plans and specifications for the construction of a treatment plant for a barrier well at municipal well 15. Secondly, in order to get to the design stage of the treatment plant, bench testing on a range of contaminant levels will be conducted. Data analysis from the bench testing will have application to pretreatment and or treatment design for other wells later to be constructed as part of the barrier well network.

Well 15 is located approximately one half mile north of the former Reilly Tar site. The utility of this well as a barrier well will be to decrease the spread of contaminants in the Prairie du Chien - Jordan Aquifer. Since the closure of well 15 in 1978, contaminants have spread in the aquifer southeast of the site. The migration of contaminants as a result of the closure of well 15 is best explanation available for the contamination and subsequent closure of municipal well 4 in late 1979. The construction of the treatment plant will enable the city to put the well back in service. With well 15 pumping, the spread of contaminants should decrease in the Prairie du Chien. It is anticipated that the water quality will improve

southeast of the site at well 4. The MPCA and MDH feel that the establishment of well 15 as a barrier well will be part of any overall remedial action program for the site.

Plans and specifications of a treatment plant for a barrier well at municipal well 15 could be prepared with the completion of the following tasks A, B, and C. Tasks A, B, C (as identified below) fit Category C - Engineering Design. The completion of these tasks prepares the project for Category D - Implementation of Remedial Actions.

A. Investigate Potential for Removal of Various Levels of Contaminants in Water Using Activated Carbon. A gradient-control well network is currently under investigation for implementation in all aquifers in the Study Area. The quality of the water in the aquifers varies from heavily contaminated water with several hydrocarbon phases to water with contaminants present in parts per billion.

   Conduct bench testings on a range of heavily to lightly contaminated water (i.e., USGS well 13 and municipal well 15). Laboratory work will determine or verify the following:

   1) Isotherm test
   2) Carbon test
   3) Effect of linear flow rate and contact time
   4) Effect of pH
   5) Effect of temperature
   6) Adsorptive capacity
   7) Type of carbon

Estimate of Cost:			
	Principal Engineer	16 hours	$ 1,088
	Program Manager	160 hours	7,680
	Chemist	752 hours	18,048
	Outside Analytical		27,600
	Materials		780
		TOTAL	$55,196

Completion Date: May 15, 1981

B. Conduct a Pilot Plant Study for the Removal of PAH Compounds from St. Louis Park Well 15. Well 15 draws water from the Prairie du Chien - Jordan Aquifer which has been closed for municipal water supply due to high levels of PAH compounds. The closing of this well has resulted in increased contaminant migration away from the contamination center. The pilot plant would be used to investigate the removal of PAH compounds from a high capacity well constructed in the Prairie du Chien - Jordan Aquifer. The operation of the pilot plant would be tested under four (4) runs of ten (10) days each for a total of forty (40) days. Upon completion, the data would be analyzed, and design criteria established for a treatment plant.

Estimate of Cost: Pilot Plant Construction and Test Runs

Principal Engineer	16 hours	$ 1,088
Program Manager	40 hours	1,920
Senior Engineer	80 hours	2,400
Senior Technician	320 hours	8,640
Chemist	80 hours	1,920
Technician	24 hours	432
Laboratory Outside Services - 180 samp @ $150.00		27,000
TOTAL		$43,400

Evaluation of Analytical Data from Pilot Plant Test Runs and Establishment of Design Criteria

Principal Engineer	16 hours	$ 1,088
Program Manager	40 hours	1,920
Senior Engineer	80 hours	2,440
Senior Technician	40 hours	1,080
Chemist	20 hours	480
TOTAL		$ 6,968

Completion Date: May 15, 1981

C. Prepare Plans and Specification for Water Treatment at Well 15. The existing treatment plant will be utilized in the design. Use of this existing deep, high capacity well, representing substantial capital investment, is advantageous for the following reasons: (1) the well is ready for immediate use for gradient control, which will retard the spread of contamination, provided only that treatment facilities are designed and constructed to make the pumped water usable; (2) needed public water supply will thereby be provided, and the water will not be wasted; (3) no matter what ultimate remedial actions are implemented, the use of well number 15 for gradient control will be beneficial and can be easily incorporated into the overall scheme, because it is located relatively near to the contamination center in the Prairie du Chein - Jordan Aquifer; (4) as noted, the existing well represents substantial capital and its use will therefore be a double saving (i.e., it is a bonus for remedial actions, and its use prevents the "writing off" of a previous public investment); (5) disposal of pumped water in the vicinity of well number 15 by means other than using it for water supply would be difficult due to location far from suitable receiving waters and the fact that some degree of treatment would be required in any case.

Estimate of Cost:				
	Principal	340		$23,120
	Program Manager	340		16,320
	Senior Engineer	680		20,400
	Senior Technician	1020		27,540
	Technician	680		12,240
	Outside Services			
	-Structural			10,000
	-Electrical			6,500
	-Mechanical			8,200
	Specification Preparation	80		1,200
	Printing 50 @ $25.000			1,250
			TOTAL	$126,000

Completion Date: May 15, 1981

Remove debris from well and clean to original depth. Install packers and sample formation water. If hazardous wastes are encountered during clean out, cease drilling, and continue investigation by coring. Analyze approximately twenty (20) core samples and four (4) water samples for total PAH, phenolic compounds, and TOC. Prepare plans and specifications for well abandonment or reconstruction based on an evaluation of the condition and the utility of the well.

Estimate of Cost:	20 soil analyses	$12,000
	4 water analyses	2,400
	drilling and/or coring	20,000
	abandonment/reconstruction specifications	5,000
	possible removal of hazardous waste	5,000
	TOTAL	$44,400

Completion Date: April 15, 1981

II. Off-Site Well Abandonment - Including Investigation of Wells in Study Area as a Pathway for the Spread of Contaminants. A major effort is needed to locate and evaluate all wells in the Study Area. It has been shown that wells penetrating more than one aquifer can provide a significant pathway for the spread of contaminants. This task consist of Categories B - Field Investigation and Feasibility, and Category C - Engineering Design. The completion of this task will prepare the project for Category D - Implementation of Remedial Action.

Conduct a comprehensive search and compilation of all wells in the St. Louis Park study area and develop a well-abandonment program. Prepare plans and specifications for the reconstruction or abandonment of those wells in which adequate information is available on the construction and condition

IV. Summary of Tasks to be Completed During Spring of 1981, in Preparation of Superfund Support in June of 1981

Priority Ranking	Status*	Estimate of Cost	Task Description
1			I. Abandonment of two on-site wells
			A. Investigation of W23 **
	B_1	38,800	1) Evaluate the extent of contamination of W23,
	C_1	5,000	Prepare plans and specifications for abandonment or reconstruction, based on the evaluation of the well
	B_1	74,400	2) Evaluate the significance of coal tar known to be in and around W23
	B_2	39,400	B. Evaluate extent to which the Sugar Beet Well functioned as a wastewater disposal site
	C_2	5,000	Prepare plans and specifications for ** abandonment or reconstruction, based on the evaluation of the well
2			II. Off-site Well Abandonment
	B_3	5,000	well search
	C_3	15,000	Prepare plans and specifications for abandonment or reconstruction, based on the evaluation of the well
3			III. Establishment of a barrier well at municipal well 15
	B_4	55,196	A. Investigate potential for removal of various levels of contaminants in water using activated carbon

*Status refers to categories depicting status of sites as described in EPA memorandum from Michael B. Cook to Regional Administrators, January 19, 1981

completion of C_1 is dependent on B_1
completion of C_2 is dependent on B_2
completion of C_3 is dependent on B_3
completion of C_4 is dependent on B_4

** This includes development and screening of alternatives and the environmental assessment.

Priority Ranking	Status*	Estimate of Cost	Task Description
	B_4		B. Conduct a pilot plant study for the removal of PAH compounds
		43,400	1) Pilot plant construction and test runs
		6,968	2) Evaluation of analytical data from pilot plant test runs and establishment of design criteria
	C_4	126,000	C. Prepare plans and specifications for water treatment at well 15
	TOTAL	$414,164	

PUBLIC PARTICIPATION IN THE REILLY TAR HAZARDOUS WASTE SITUATION

I. Narrative

Involving the public in preparations for cleaning up the Reilly Tar and Chemical waste-site in St. Louis Park will have an important bearing on the success of the cleanup operation. An involved citizenry, kept apprised from beginning to end, can provide legitimacy and support for the project that might otherwise be lacking. While few would oppose the idea of cleaning up a hazardous waste site and a public health problem, some may resent an undertaking in their area carried-out without local consultation, and hinder the project.

The public participation program proposed for the Reilly situation has the following objectives:

1) To promote expeditious resolution and abatement of pollution and public health problems.
2) To make certain the citizenry understands what various agencies propose to do.
3) To show that the agencies involved consult with all affected and interested parties in a good-faith effort to consider public concerns and viewpoints when decisions are made.
4) To keep the citizenry updated on progress and new developments.
5) To make sure the agencies are accessible and responsive throughout the process.

The estimated cost of such a program is $14,000. Sections II and III of this attachment identify public participation program elements and provide a breakdown of estimated program costs.

II. Participation Plan Elements

1) Contractor Briefing with MPCA Staff

2) Initial Public Meeting News Release

3) Fact Sheets in Preparation for Initial Public Meeting

4) Prepare Visuals of St. Louis Park Aquifer Situation
   - Treatment Strategies
   - Well Abandonment

5) Initial Public Meeting - Status of Situation
   - Presentation of Fact Sheets
   - Solicitation for Advisory Committee Application
   - Monthly Newsletter Sign-up

6) Review of Proposals by Citizen's Advisory Committee

7) Interviewing and Formation of Advisory Committee

8) News Release Announcing Advisory Committee and Monthly Newsletter

9) Training Advisory Committee

10) Advisory Committee Meeting Every Eight Weeks

11) Monthly Newsletter Sent to - Advisory Committee
   - People Attending Meetings
   - St. Louis Park Publications
   - Local/County Officials
   - Chamber of Commerce
   - Religious Institutions
   - Special Interest Groups

12) Responsive Summary - Environmental Protection Agency Regulations
   - Copies of MPCA Rules, Statutes and Program Summaries

III. Estimated Cost of Program

		Person Days	Dollars
1)	Briefing	2 (16 hrsx$40/hr)*	$640
2)	Release	1 (8 hrsx$40/hr)	$320
3)	Fact Sheets (4) a) History of Situation b) Proposed Clean-up c) Lawsuits d) Ground Water and Diagram	5 (40 hrs/$40/hr)	$1600
4)	Visuals (3) a) Diagram of the 4 Aquifers Involved b) Well Abandonment Strategy c) Treatment Porgram	3 (24 hrs/$40/hr)	$960
5)	Initial Public Meeting a) Briefing with MPCA Staff b) Phone Contact with Civic/Comm Leaders c) Locating Space d) Advertising Meeting	5 (40 hrs/$40/hr)	$1600
6)	Review of Clean-up Proposals	1 (8 hrs/$40/hr)	$320
7)	Interview and Formation of Advisory Committee	2 (16 hrsx$40/hr)	$640
8)	News Release	1 (8 hrsx$40/hr)	$320
9)	Training Advisory Committee a) Preparation b) One-on-One with Members c) Training Meeting	3 (24 hrsx$40/hr)	$560
10)	Advisory Committee Meeting a) 6 Month, 3 Meeting (8 Week Intervals) b) Preparation Meeting with MPCA Staff c) Presentation	3 per mtg. (24 hrsx$40x 3 meetings)	$1680
11)	Monthly Newsletter	2 per litter (16x$40/hr) x6 letters x 6	$3840
12)	Responsiveness Summary	5 (40x$40/hr)	$1600

*Contractor Cost Estimate at $40 per hour

				Person Days	Dollars
13)	Newsletter Mailing Costs			(400 copies)	$624
	- paper	.3¢	12.00		
	- envelope	.3¢	12.00		
	- xerox	.5¢	20.00		
	-postage	.15¢	60.00		
			$104.00 per month for 6 months		
14)	Fact Sheets			(500 copies)	$320
	- paper	.3¢	15.00		
	- xerox	.5¢	25.00		
			$40.00 per presentation, 8 presentations anticipated		
15)	Visual Materials				$60
	- 3 Graphs				
				TOTAL	14,084

EPA - State of Minnesota Cooperative Agreement

The State of Minnesota recognizes that remedial action by the EPA under the Superfund Act requires contribution towards the costs of such action and other assurances by the state. Under Section 104(c) of the Act, the state is responsible (I) for long term maintenance of removal work and other remedial actions, (II) for providing such hazardous waste disposal facilities as may be necessary for hazardous substances removed from the site, and (III) for payment of 10 percent of the costs of remedial action, including future maintenance. The state's general preparation for these three areas of responsibility and certain questions which have arisen will be discussed in this letter.

I. Long Term Maintenance

Minnesota is committed to a thorough and comprehensive approach to abate the risks to health and the environment posed by the chemical wastes from the Reilly Tar facility. This commitment has been demonstrated in the state's actions on the Reilly Tar problem over the past decade, in the increased attention by state agencies to hazardous waste issues over the past year, and to efforts currently underway in the Minnesota Legislature to establish a state "mini-Superfund."

A. State and Local Efforts to Protect Public Water Supplies and to Abate and Control Pollution of the Ground Water

The efforts of Minnesota and the City of St. Louis Park to abate pollution at the Reilly Tar site are summarized in the following chronology:

1. In October, 1970, St. Louis Park and the state, by its Pollution Control Agency, filed suit against Reilly Tar in the District Court of Minnesota, Fourth Judicial District, seeking abatement of air and surface water pollution from Reilly Tar's site. St. Louis Park voluntarily dismissed its suit in June, 1973, as a term of an agreement to purchase the Reilly Tar site.

2. In September, 1974, the Department of Health issued a report on wells in St. Louis Park which described elevated levels of phenols in the well water and called for a comprehensive geological and hydrological study of the area. During that month, Department of Health analyses of soil samples from the Reilly Tar site disclosed the presence of polynuclear aromatic hydrocarbons (hereinafter "PAH") compounds.

3. In March, 1975, the Pollution Control Agency issued a National Pollution Discharge Elimination System (hereinafter "NPDES") permit to St. Louis Park establishing treatment standards, monitoring requirements, and effluent limitations for discharges from a proposed St. Louis Park storm sewer system which would drain an area including the Reilly Tar site.

4. Between November, 1975, and July, 1977, Barr Engineering company conducted a study of the site area and prepared reports for the state on contamination of the soil and ground water and future impacts on ground water qualilty. The final report recommended additional studies and corrective actions, including abandonment of multi-aquifer wells that were pathways for spread of contaminants. The state paid $108,000 for the Barr study.

5. In October, 1977, the Department of Health issued a preliminary assessment of possible health risks from contamination of municipal wells by carcinogenic PAH compounds, including recommendations for monitoring municipal wells in the St. Louis Park area for such compounds.

6. In April, 1978, the state sought to reactivate its state court action against Reilly Tar by seeking leave to amend its complaint to allege the recently discovered contamination of ground water by PAH compounds. St. Louis Park sought leave to intervene as a plaintiff. In September, 1978, these motions were granted. After interlocutory review was denied by the Minnesota Supreme Court, discovery was commenced by all parties and is continuing at this time.

7. In May, 1978, the Department of Health commenced High Performance Liquid Chromatography (HPLC) analyses of water

from St. Louis Park and other municipal wells for PAH compounds. Because of the level of PAH compounds found, St. Louis Park municipal wells 7, 9, 10 and 15 were closed in November, 1978. The potential hazard to the public health from the PAH contamination was reported in a Department of Health risk assessment report issued in November, 1978. Experimental treatment of water from the closed wells was undertaken by St. Louis Park in July and October, 1979. The wells have never been returned to service.

8. In July, 1978, the United States Geological Survey (hereinafter "USGS") commenced a cooperative project with the state to define ground water flow and transport of organic contaminants in the area of the site, including development of a digital computer ground water chemical transport medel. The State has so far incurred expenses of $205,000 for the USGS study, including services provided in kind. Additional expenses will be incurred for USGS assistance.

9. In cooperation with the USGS, the State was able to locate, clean out, and seal or recomplete 24 multi-aquifer wells which were facilitating, or appeared likely to facilitate, the spread of contaminatns to deeper aquifers. The cost incurred by the State for this well abandonment from July, 1979, to October, 1980, was $70,000.

10. An additional $29,640 was appropriated by the Legislature on an emergency basis on October 1, 1980, to continue well abandonment through the end of the state fiscal year in June, 1981.

11. In response to USGS reports of contaminated water moving down the well bore of W23, a deep well on the site formerly used in Reilly Tar's operations, St. Louis Park installed a temporary packer in the well in July, 1979. This packer prevents further contamination of the Prairie du Chien-Jordan aquifer from this source.

12. From early 1979 to December, 1980, the Department of Health conducted an epidemiological study of cancer incidence in St. Louis Park, focusing on elevated levels of breast cancer noted in the first phase of the study.

13. From 1979 to date the Department of Health has been performing PAH analyses on water samples collected from municipal and large industrial wells in St. Louis Park and surrounding communities. In October-November, 1979, these PAH analyses led to the closing of St. Louis Park municipal well No. 4. This well was returned to service for three days in May, 1980, because of fire protection needs. It is currently closed.

14. In April, 1980, the State awarded a consortium of engineering firms headed by Eugene A. Hickok and Associates a $120,000 contract to research measures and unit cost estimates for

abating the soil and ground water contamination emanating from the site. St. Louis Park has also entered into a $25,000 contract with Hickok and Associates to examine treatment of well water and alternative municipal water sources. Work on both contracts is in progress.

B. Increased Attention to Hazardous Waste Problems

Several units of the Department of Health and the Pollution Control Agency have been working on various aspects of hazardous waste problems for years. These groups are described under (5) "State Capabilities" below. To complement these groups and strengthen Minnesota's response to improper hazardous waste disposal, the Pollution Control Agency established in November, 1980, a Hazardous Waste Site Response Group (HWSRG) within its Solid and Hazardous Waste Division. The HWSRG brings together staff with background in geology, hydrology, chemistry, and engineering. This staff draws upon existing resources in the state agencies to provide a coordinated response to hazardous waste problems. An appropriation of $275,000 is being sought in the 1981 session of the Minnesota Legislature for special studies over the next two years, to be conducted under the direction of the HWSRG in order to expedite remedial action at disposal sites. This appropriation would be for state wide use, and only a fraction would likely be available for the Reilly Tar site.

C. Legislative Action - The Proposed Environmental Emergency Response Act.

House File 118, the Minnesota Environmental Emergency Response Act, has been introduced in the 1981 Minnesota Legislature. The bill is patterned after S. 1480 which was introduced in the 96th Congress. It would create a Hazardous Substance Response Fund to be administered by the Director of the Pollution Control Agency and to be used, among other purposes, for "restoration, rehabilitation, or replacement or acquiring the equivalent of any natural resources injured, destroyed or lost as a result of any discharge or release of a hazardous substance." H.F. 118, §31, subd. 1(e). If this bill should be enacted, it would provide a long term mechanism for responding to improper hazardous waste disposal problems.

D. Summary of Long Term Maintenance Responsibility

Minnesota is aware of the responsibilities which flow from Superfund financing of remedial action on the Reilly Tar site. At this early stage in the design of remedial action, the state recognizes that remedial expenditures will run in the millions of dollars. Prior state action on the problem illustrates the state's serious concern and, as will be discussed later, provide a basis for several million dollars of matching federal expenditures, under the 90%-10% sharing arrangement of §104(c) of the Superfund Act. The state's continued concern for hazardous waste problems is evidenced by the establishment of the Hazardous

Waste Site Response Group, by the hazardous waste disposal facility siting process established by the Minnesota Waste Management Act of 1980 (to be discussed under (II) below), and by legislative efforts such as the pending proposal for an Environmental Emergency Response Act. This well established record of environmental awareness and action should provide assurance at present that Minnesota will meet its long term maintenance responsibilities as they are developed in the course of designing remedial action. Of course, the state recognizes that a contractual commitment will be required when Superfund financing becomes available.

II. Provision of Disposal Facility for any Hazardous Wastes to be Removed from the Reilly Tar Site

A. A Disposal Site Permitted Under §3001 of the Solid Waste Disposal Act is Available for the Quantities of Coal Tar Wastes Anticipated from the Remedial Action Proposed for the Summer of 1981

The MPCA Hazardous Waste Response Group is presently working on a number of hazardous waste site problems (approximately 35) in Minnesota and as a result of this effort, some site cleanup has already occurred. Hazardous waste generated at some of these sites as a result of cleanup has been disposed of at outstate facilities located in Illinois, Kansas and Idaho. Minnesota expects that outstate disposal facilities will remain available until a Minnesota disposal facility is established (discussed under (B) below).

B. Although Minnesota Does Not Presently Have a Hazardous Waste Disposal Facility, It Has a Sound Process Underway Which Will Lead to Selection of a Facility Site by 1983

The Minnesota Waste Management Act of 1980, Minn. Stat. Ch. 115A (1980), established a process for selection of a hazardous waste disposal facility in the state by 1983. The process provides for evaluation of all possible site locations in the state, continuing public participation, drafting of a state hazardous waste management plan, and selection of candidate sites. By 1983, final decisions will be made on land disposal sites and facilities. The site selection process is shown on the attached flow chart "Hazardous Waste Facilities Planning/Siting Process" and is further explained in the attached summary of the Waste Management Act.

C. Summary of Disposal Facility Responsibilities

Minnesota has located permitted disposal facilities for coal tar wastes which may be encountered during remedial action this coming summer. The state is also committed by law to selecting a hazardous waste disposal site within its borders and actively working on the selection process. Thus, Minnesota will be prepared to meet disposal facility needs which may arise in subsequent phases of remedial work on the Reilly Tar site.

III. Minnesota's Share of Costs of Remedial Actions

Under Section 104(c)(3) of the Superfund Act, Minnesota understands that it is responsible for 10 percent of the costs of remedial action at the Reilly Tar site, including all future

maintenance. Although portions of the site are now owned by a municipal housing and redevelopment authority, municipal ownership of the site did not occur until all coal tar refining and wood treating operations had ceased. There was no municipal ownership interest in the site, nor any municipal disposal of hazardous wastes at the site, during the 55 years of Reilly Tar operations which ended in 1972. Accordingly, the state is convinced that no cost sharing arrangement other than the 90% federal/10% state shares would be appropriate in these circumstances. Your early confirmation on this point is requested.

As earlier discussed, Minnesota has expended over $500,000 on response to the Reilly Tar problem. In addition, the City of St. Louis Park has made considerable expenditures. Minnesota believes that at a minimum the following $508,000 of state and local expenditures since January 1, 1978, would qualify for credit towards the 10% state share:

State of Minnesota

Hickok and Assoc.	$120,000	July 1, 1980 -
USGS	$205,000	July 1, 1978 - Oct. 1, 1980
Well Abandonment	$ 70,000	July 1, 1978 - June 30, 1981
Well Abandonment	$ 30,000	Sept. 1, 1980 -
USGS	$ 19,000	Oct. 1, 1981 -
TOTAL	$444,000	

City of St. Louis Park

Well Closure #1, #2, #9	$ 10,000	1978
Rubber packer	$ 5,000	1980
Drinking Waster Study	$ 25,000	1980
Carbon Pilot Treatment	$ 8,000	1979
Locating Abandoned Wells on Old Reilly Tar Site	$ 5,000	1979-80
Pace Labs Analysis of L.A. Testing	$ 2,000	1978-
Monitoring Well	$ 4,000	1978
City part to USGS	$ 5,000	Oct. 1, 1981
TOTAL	$ 64,000	

The state does have several questions about matching funds: (1) Will the amount which qualifies for matching funds be affected by previous matches made by the United States Geological Survey under its cooperative program with the states? (2) Will expenditures for (a) time of state employees or, (b) state lab services spent on the USGS, Hickok or well abandonment projects be eligible for matching? (3) Will such expenditures by the city for its employees be eligible for matching? (4) Will expenditures for (a) time of state employees, or (b) state lab services spent on the municipal well sampling program, the epidemiological studies, or the health risk assessments be eligible for matching? Your early answers to these questions would facilitate Minnesota's preparation on the matching fund requirement.

State Capability for Carrying Out Action Proposed for the Reilly Tar Site

The Department of Health and Pollution Control Agency each have several units with experienced staff assigned to areas relevant to likely remedial action at the Reilly Tar Site. In addition to the overall coordination role carried out by its Hazardous Waste Site Response Group described in Attachment D above, the Pollution Control Agency also has a Facililties Section to evaluate pre-treatment of barrier well effluent, a Ground Water Section to evaluate contaminant control and removal, a Permit Section in the Solid and Hazardous Waste Division to classify wastes and review proposed disposal sites, a Permits Section in the Water Quality Division to review the NPDES permit for storm water discharge from the site, and a Surveys and Standards Section to review impacts of proposed action on surface waters.

The Department of Health has a Ground Water Quality Control Unit, an Analytical Services Section, a Health Risk Assessment Section, and a Water System Supply Section which are all experienced in the Reilly Tar problem. The Ground Water Quality Control Unit has inventoried close to 200 wells in the vicinity of the site, has developed specifications for well abandonment and overseen the abandonment work, has done down hole camera investigations, and has supervisory responsibilities on the USGS and Hickok projects. The Analytical Services Section has participated in ongoing monitoring of public water supplies in the

St. Louis Park area, and has provided laboratory analysis for Department of Health and USGS projects. The Health Risk Assessment and Water System Supply Section have evaluated water quality data and made recommendations to safeguard public health.

In addition to the capabilities of these individual units, there is a forum for broad based discussion of response actions at the Reilly Tar site. The forum is the St. Louis Park Working Committee, whose membership includes the EPA, the USGS, the Pollution Control Agency, the Department of Health, the Department of Natural Resources, the City of St. Louis Park, the St. Louis Park Housing and Redevelopment Authority, Hickok & Associates, and the Izaak Walton League. The committee has been meeting approximately every six weeks for the past two years to review studies, projects, and proposals concerning the Reilly Tar site and the soil and ground water contamination issues. It has also made use of temporary technical subcommittees to deal with specific issues. The state anticipates that this committee will assist in deliberation on Superfund remedial action.

With this strong background in the Reilly Tar problems, the state has the capability to oversee expenditure of Superfund monies in St. Louis Park in accordance with EPA Superfund guidelines and other applicable state and federal regulations.

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